

# Missouri Department of Natural Resources



## PUBLIC NOTICE

### DRAFT MISSOURI STATE OPERATING PERMIT

DATE: August 27, 2004

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102, ATTN: Peter Goode, P.E., Chief, NPDES Permits and Engineering Section. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdtt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by September 27, 2004 or received in our office by 5:00 p.m. on September 30, 2004. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.state.mo.us/wpscd/wpcp/homewpcp.htm>, or at the Department of Natural Resources, Water Protection Program, 205 Jefferson Street, P.O. Box 176, Jefferson City, Missouri 65102, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: August 27, 2004

Permit Number: MO-0026336

Kansas City Regional Office

FACILITY NAME AND ADDRESS	NAME AND ADDRESS OF OWNER
Savannah WWTF 14260 South Business 71 Savannah, MO 64485	City of Savannah 402 Court Savannah, MO 64485
RECEIVING STREAM & LEGAL DESCRIPTION	TYPE OF DISCHARGE
Tributary to Dillon Creek (Dillon Creek), Sec. 22, T59N, R35W, Andrew County	Domestic, modification to upgrade facility

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.

MO-0026336

Owner:

City of Savannah

Address:

402 Court Street, Savannah, MO 64485

Continuing Authority:

Same as above

Address:

Same as above

Facility Name:

Savannah Wastewater Treatment Facility

Address:

14260 South Business 71, Savannah, MO 64485

Legal Description:

NE  $\frac{1}{4}$ , NW  $\frac{1}{4}$ , Sec. 22, T59N, R35W, Andrew County

Receiving Stream:

Tributary to Dillon Creek (U)

First Classified Stream and ID:

Dillon Creek (C) (00268)

USGS Basin & Sub-watershed No.:

(10240011-010001)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

Outfall #001 - POTW - SIC #4952

Oxidation ditch/aerobic digester/peak flow clarifier/sludge is being land applied.

Design population equivalent is 10,000.

Design flow is 1.000 MGD.

Actual flow is 0.650 MGD.

Design sludge production is 137 dry tons/year.

Actual sludge production is 76.4 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

Expiration Date  
MO 780-0041 (10-93)

Jim Hull, Director of Staff, Clean Water Commission

PAGE NUMBER 2 of 7						
PERMIT NUMBER MO-0026336						
<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>						
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/day	24 hr. estimate
Biochemical Oxygen Demand <sub>5</sub> **	mg/L	45		30	once/month	24 hr. comp.****
Total Suspended Solids**	mg/L	45		30	once/month	24 hr. comp.****
pH - Units	SU	***		***	once/month	grab
Total Ammonia (May 1 - October 31) (November 1 - April 30)	mg/L	2.95 4.87		1.47 2.43	once/month	grab
<u>Peak Flow Clarifier Sampling Point</u>						
Flow	MGD	*		*	once/weekly*****	grab
Biochemical Oxygen Demand <sub>5</sub>	mg/L	*		*	once/weekly*****	grab
Total Suspended Solids	mg/L	*		*	once/weekly*****	grab
pH - Units	SU	*		*	once/weekly*****	grab
Total Ammonia	mg/L	*		*	once/weekly*****	grab
<b>MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u>; THE FIRST REPORT IS DUE _____.</b>						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	24 hr. comp.****
<b>MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u>; THE FIRST REPORT IS DUE _____.</b>						
<u>Instream Monitoring - S1 - Immediately upstream of discharge</u>						
Dissolved Oxygen	mg/L	*		*	once/quarter	grab
Total Nitrogen	mg/L	*		*	once/quarter	grab
<u>Instream Monitoring - S2 - 0.4 miles downstream of discharge</u>						
Dissolved Oxygen	mg/L	*		*	once/quarter	grab
Total Nitrogen	mg/L	*		*	once/quarter	grab
Total Ammonia	mg/L	*		*	once/quarter	grab
<b>MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u>; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.</b>						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* This facility is required to meet a removal efficiency of 85% or more.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- \*\*\*\* A composite is made up from a minimum of 4 grab samples collected within a 24-hour period with a minimum of 2 hours between each grab sample.
- \*\*\*\*\* Monitor only when discharge occurs. Report no discharge when a discharge does not occur during the report period.

C. SCHEDULE OF COMPLIANCE

The permittee shall submit a report semi-annually with the December and June Discharge Monitoring Reports which addresses measures taken to locate and eliminate sources of infiltration and inflow into the city's collection system.

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
  - (1) One hundred micrograms per liter (100 µg/L);
  - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
  - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

D. SPECIAL CONDITIONS (cont.)

5. Report as no-discharge when a discharge does not occur during the report period.
6. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
  - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
7. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
- (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (e) There shall be no significant human health hazard from incidental contact with the water;
  - (f) There shall be no acute toxicity to livestock or wildlife watering;
  - (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
8. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
#001	100%	Annually	24 hr. composite	September

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period.  
Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the

D. SPECIAL CONDITIONS (cont.)

- (2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days, and biweekly thereafter, until one of the following conditions are met:
  - (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
  - (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (3) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.

8. Whole Effluent Toxicity (WET) (continued)

(a) Test Schedule and Follow-Up Requirements (continued)

- (4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact WPP, Water Quality Monitoring and Assessment Section to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the Water Quality Monitoring and Assessment Section of the WPP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (5) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (6) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (7) All failing test results shall be reported to WPP, Water Quality Monitoring and Assessment Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.
- (9) Submit a concise summary of all test results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

- (1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence

level;  $p = 0.05$ ) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.

D. SPECIAL CONDITIONS (cont.)

(2) To pass a multiple-dilution test:

- (a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the  $LC_{50}$  concentration for the most sensitive of the test organisms; or,
  - (b) all dilutions equal to or greater than the AEC must be nontoxic.
- Failure of one multiple-dilution test is an effluent limit violation.

8. Whole Effluent Toxicity (WET) (continued)

(c) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- (4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (5) Single-dilution tests will be run with:
  - (a) Effluent at the AEC concentration;
  - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  - (c) reconstituted water.
- (6) Multiple-dilution tests will be run with:
  - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
  - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  - (c) reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.



### SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

#### Test conditions for Ceriodaphnia dubia:

Test duration: 48 h  
Temperature:  $25 \pm 1^\circ\text{C}$  Temperatures shall not deviate by more than  $3^\circ\text{C}$  during the test.  
Light Quality: Ambient laboratory illumination  
Photoperiod: 16 h light, 8 h dark  
Size of test vessel: 30 mL (minimum)  
Volume of test solution: 15 mL (minimum)  
Age of test organisms: <24 h old  
No. of animals/test vessel: 5  
No. of replicates/concentration: 4  
No. of organisms/concentration: 20 (minimum)  
Feeding regime: None (feed prior to test)  
Aeration: None  
Dilution water: Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.  
Endpoint: Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at  $p \leq 0.05$ )  
Test acceptability criterion: 90% or greater survival in controls

#### Test conditions for (Pimephales promelas):

Test duration: 48 h  
Temperature:  $25 \pm 1^\circ\text{C}$  Temperatures shall not deviate by more than  $3^\circ\text{C}$  during the test.  
Light Quality: Ambient laboratory illumination  
Photoperiod: 16 h light/ 8 h dark  
Size of test vessel: 250 mL (minimum)  
Volume of test solution: 200 mL (minimum)  
Age of test organisms: 1-14 days (all same age)  
No. of animals/test vessel: 10  
No. of replicates/concentration: 4 (minimum) single dilution method  
2 (minimum) multiple dilution method  
No. of organisms/concentration: 40 (minimum) single dilution method  
20 (minimum) multiple dilution method  
Feeding regime: None (feed prior to test)  
Aeration: None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.  
Dilution water: Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.  
Endpoint: Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at  $p \leq 0.05$ )  
Test Acceptability criterion: 90% or greater survival in controls



Missouri Department of Natural Resources  
Water Protection Program  
Water Quality Monitoring and Assessment Section

**Water Quality Review Sheet**  
*Determination of Effluent Limits*

**Facility Information**

FACILITY NAME: Savannah WWTF NPDES #: MO-0026336

FACILITY TYPE/DESCRIPTION: Activated Sludge/Oxidation ditch/aeration ditch

ECOREGION: Central Irregular Plains 8- DIGIT HUC: 10240011 COUNTY: Andrew  
Central Irregular Plains Osage Plains  
Mississippi Alluvial Plains Ozark Highlands

LEGAL DESCRIPTION: NE ¼, NW ¼, Sec. 22, T59N, R35W LATITUDE/LONGITUDE: \*

\*Proposed upgrade will involve movement of outfall by about 100 ft, so precise lat/long at this point is undetermined.

WATER QUALITY HISTORY: Since 1993, there have been three effluent violations for TSS, two for BOD and 1(2?) for pH.

**Outfall Characteristics**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT TYPE	RECEIVING WATERBODY	OTHER
001	1.86	Extended aeration	Dillon Creek	Will replace Current Outfall
Clarifier Sampling Point	Unknown	Peak flow clarifier	Dillon Creek	Stormwater and untreated wastewater

**Receiving Waterbody Information**

WATERBODY	CLASS	7Q10 (CFS)	*DESIGNATED USES	OTHER CHARACTERISTICS
Dillon Creek	C	0.0	AQL, LWW	Limited warm-water fishery

\*Cool Water Fishery (CLF), Cold Water Fishery (CDF), Irrigation (IRR), Industrial (IND), Boating & Canoeing (BTG), Drinking Water Supply (DWS), Whole Body Contact Recreation (WBC), Protection of Warmwater Aquatic Life and Human Health (AQL), Livestock & Wildlife Watering (LWW)

COMMENTS: City proposes to expand the facility, raising discharge from 0.89 cfs to 1.86 cfs.

**MIXING CONSIDERATIONS**

**Mixing Zone:** Length of ¼ mile downstream from outfall.

**Zone of Initial Dilution (Z.I.D.):** Not allowed.

**Permit Limits And Information**

TMDL WATERSHED: ☒ N W.L.A. STUDY CONDUCTED: ☒ N DISINFECTION REQUIRED: ☒ \* DISINFECTION WAIVER: ☒ \*  
(Y OR N) (Y OR N) (Y OR N) (Y, N, NA)

\* Dillon Creek is not classified for whole body contact. However, anticipated rule changes within the next year will require all waters of the State to be fishable and swimmable. It is therefore expected that disinfection will be required as a result of that.

## OUTFALL# 001

WET TEST (Y OR N): ☒ FREQUENCY: Once/year A.E.C. 100% LIMIT: No significant mortality

PARAMETER	MAXIMUM DAILY LIMIT	AVERAGE MONTHLY LIMIT	MONITORING FREQUENCY	SAMPLE TYPE
Flow	*	*	once/month	24 hr total
Biochemical Oxygen Demand (mg/l)	45	30	once/month	24 hr composite
Non-Filterable Residue (mg/l)	45	30	once/month	24 hr composite
pH (units)	6-9		once/month	grab
Total ammonia, May 1 - Oct 31 (mg/l)	2.95	1.47	once/month	grab
Total ammonia, Nov 1 - Apr 30 (mg/l)	4.87	2.43	once/month	grab

\* Monitor only

### Clarifier Sampling Point

WET TEST (Y OR N): ☒ FREQUENCY: Once/year A.E.C. 100% LIMIT: No significant mortality

PARAMETER	MAXIMUM DAILY LIMIT	AVERAGE MONTHLY LIMIT	MONITORING FREQUENCY	SAMPLE TYPE
Flow	*	*	once/event/quarter	Total estimate/event
Biochemical Oxygen Demand (mg/l)	*	*	once/event/quarter	grab
Non-Filterable Residue (mg/l)	*	*	once/event/quarter	grab
PH (units)	*	*	once/event/quarter	grab
Total ammonia, (mg/l)	*	*	once/event/quarter	grab

\* MONITOR ONLY

## Receiving Water Monitoring Requirements

**Site 01.** Immediately upstream of outfall 001

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Dissolved Oxygen	Once/quarter	Grab	39.92146/-94.81520
Total Nitrogen	Once/quarter	Grab	39.92146/-94.81520

**Site 02.** 0.4 mile downstream of outfall 001 (closest accesible)

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Dissolved Oxygen	Once/quarter	Grab	39.91676/-94.81792
Total Nitrogen	Once/quarter	Grab	39.91676/-94.81792
Total Ammonia	Once/quarter	Grab	39.91676/-94.81792

## Derivation and Discussion of Limits

**BOD & NFR:** 10CSR20-015(8) (B)1

**pH:** 10CSR20-015(8) (B)2

**Total Ammonia:** Applicable to any plant that discharges > 0.3 MGD. On Dillon Creek 7Q10 = 0 so no dilution factor is allowed. Limits are designed to meet chronic criteria for limited warm water fishery.

Current Total Ammonia limits from WLA used to determine long term average (LTA). Maximum Daily (MDL) and Average Monthly (AML) limits were calculated in accordance with methods outlined in EPA/505/2-90-001.

Margin of Safety = 10%.

Chronic Criteria Total Ammonia (26°C, pH = 7.8): 2 mg/l

Summer Ammonia as N Criteria: 2 mg/l - (0.1) (2 mg/l) = 1.8 mg/l

Chronic Criteria Total Ammonia (6°C, pH = 7.8): 3.3 mg/l

Winter Ammonia as N Criteria: 3.3 mg/ - (0.1) (3.3 mg/l) = 2.97 mg/l

Season	W.L.A	L.T.A	M.D.L.	A.M.L.
Summer (May 1 - October 31)	1.8	0.9486	2.95015	1.47033
Winter (November 1 - April 30)	2.97	1.56519	4.86774	2.42604

C.V. = 0.6, n = 4

Reviewer: Mark Osborn

Date: 7/11/2002; Revised 1/21/03

Unit Chief: Mohsen Dkhili